

CLAIMS

1. A method for power control in a communication system (100) including a transceiver node (122) capable of communicating with multiple mobile terminals (110), comprising the steps of
 - receiving, at the transceiver node, a transmitter power change request from one of the mobile terminals over a wireless connection;
 - determining a power control parameter for the connection at the network side based on connection-specific information indicating the degree of priority associated with the connection; and
 - distributing transmitter power to the connection in accordance with the power control parameter.
2. The method of claim 1, wherein determining step is based on a predefined relationship between the connection-specific information and the degree of priority.
3. The method of claim 1, wherein the connection-specific information comprises information selected from the group of: mobile type, mobile class, subscription class, and connection time.
4. The method of claim 1, further comprising the steps of:
 - automatically classifying the mobile terminal (110) at the network side based on connection-related information; and
 - using the mobile class from the classifying step in the determining step.
5. The method of claim 4, further comprising the step of measuring the connection-related information at the network side.
6. The method of claim 4, further comprising the step of collecting, at the network side, the connection-related information from a data holding unit.

7. The method of claim 1, wherein the communication system (100) is packet-based and the connection-specific information comprises information selected from the group of: transmitted data amount, data amount in buffer, packet length, packet type, time since last packet, block error statistics, and
5 block retransmission statistics.

8. The method of claim 1, wherein the determining step is performed at a network-based control unit (124) and further comprising the step of transmitting control information comprising the power control parameter for
10 the connection from the network-based control unit to the transceiver node (122).

9. The method of claim 1, further comprising the step of receiving, at the transceiver node (122), the connection-specific information from the
15 network-based control unit (124), and wherein the determining step is performed at the transceiver node.

10. The method of claim 1, wherein the power control parameter is directly or indirectly related to a maximum value of the connection-specific
20 transmitter power.

11. The method of claim 1, wherein the power control parameter is directly or indirectly related to a power change rate of the connection-specific
25 transmitter power.

12. The method of claim 11, wherein the power control parameter comprises a power change step size.

13. The method of claim 1, wherein the power control parameter comprises
30 a quality target parameter.

14. The method of claim 1, wherein the determining step involves executing a predetermined power distribution function selected from the group of: a step function, a stepwise function, and an at least partially continuous function.

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15. The method of claim 1, comprising the further steps of
combining at least two power control parameters based on different
input parameters into an aggregate power control parameter; and
using the aggregate power control parameter for distributing the power
10 in the distributing step.

16. The method of claim 1, wherein the determining step is further based on a current total transmitter power of the transceiver node (122).

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17. The method of claim 1, wherein determining step is further based on a current connection-specific transmitter power for the connection.

18. A transceiver node (122) capable of communicating with multiple mobile terminals (110) and including means for power control, comprising

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means for receiving a transmitter power change request from one of the mobile terminals over a wireless connection; and

means for distributing transmitter power to the connection in accordance with a power control parameter for the connection, said power control parameter being based on connection-specific prioritization
25 information.

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19. The transceiver node of claim 18, comprising means for receiving control information comprising the power control parameter for the connection from the network-based control unit.

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20. The transceiver node of claim 18, further comprising

means for determining the power control parameter for the connection based on connection-specific information indicating the degree of priority associated with the connection.

5 21. The transceiver node of claim 20, further comprising means for receiving the connection-specific information from a network-based control unit (124).

22. The transceiver node of claim 18, wherein the connection-specific information comprises information selected from the group of: mobile type,
10 mobile class, subscription class, and connection time.

23. The transceiver node of claim 18, wherein the connection-specific information comprises a mobile class of the mobile terminal (110), automatically decided at the network side based on connection-related
15 information.

24. The transceiver node of claim 18, wherein, for a packet-based communication system (100), the connection-specific information comprises information selected from the group of: transmitted data amount, data
20 amount in buffer, packet length, packet type, time since last packet, block error statistics, and block retransmission statistics.

25. The transceiver node of claim 18, wherein the power control parameter is directly or indirectly related to a parameter selected from the group of: a
25 maximum value of the connection-specific transmitter power, a power change step size, and a quality target parameter.

26. The transceiver node of claim 18, wherein the power control parameter is determined based also on a current total transmitter power of the
30 transceiver node (122).

27. A network-based control unit (124) connected to a transceiver node (122) capable of communicating with multiple mobile terminals (110) over

respective wireless connections and including means for power control, comprising

means for receiving, from the transceiver node, an indication of a transmitter power change request from one of the mobile terminals;

5 means for determining a power control parameter for the connection of the mobile terminal based on connection-specific information indicating the degree of priority associated with the connection; and

means for communicating the power control parameter to the transceiver node for power distribution purposes.

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28. The control unit of claim 27, wherein the connection-specific information comprises information selected from the group of: mobile type, mobile class, subscription class, and connection time.

15 29. The control unit of claim 27, further comprising

means for measuring connection-related information; and

means for automatically classifying the mobile terminal (110) based on the connection-related information.

20 30. The control unit of claim 27, further comprising

means for collecting connection-related information from a data holding unit; and

means for automatically classifying the mobile terminal (110) based on the connection-related information.

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31. The control unit of claim 27, wherein, for a packet-based communication system (100), the connection-specific information comprises information about an item selected from the group of: transmitted data amount, data amount in buffer, packet length, packet type, time since last packet, block error statistics, and block retransmission statistics.

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32. The control unit of claim 27, wherein the power control parameter is directly or indirectly related to a parameter selected from the group of: a

maximum value of the connection-specific transmitter power, a power change step size, and a quality target parameter.

33. The control unit of claim 27, wherein the determining step is further
5 based on a current total transmitter power of the transceiver node (122).

34. A communication system (100) provided with means for power control and including a transceiver node (122) capable of communicating with multiple mobile terminals (110), comprising

10 means for receiving, at the transceiver node, a transmitter power change request from one of the mobile terminals over a wireless connection;

means for determining a power control parameter for the connection based on connection-specific information indicating the degree of priority associated with the connection; and

15 means for distributing transmitter power to the connection in accordance with the power control parameter.

35. The communication system of claim 34, further comprising

20 means for automatically classifying the mobile terminal (110) at the network side based on connection-related information; and

means for using the mobile class from the classifying step in the determining step.

36. The communication system of claim 34, comprising means for
25 determining the power control parameter based also on a current total transmitter power of the transceiver node (122).

37. The communication system of claim 34, being selected from the group
30 of: a Code Division Multiple Access (CDMA) system, a Wideband Code Division Multiple Access (WCDMA) system, an Orthogonal Frequency Division Multiplexing (OFDM) system, and a system using Multi Carrier Power Amplifiers (MCPA).